

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number: 6,898,147 B2
Issued: May 24, 2005
Inventors: Edward Louis Jenner and Martin Carroll Williams
Title of Invention: System for Estimating Azimuthal Variations in Seismic Data

Commissioner of Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

ATTENTION: Certificate of Correction Branch

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR APPLICANT'S MISTAKE (37 CFR 1.323)**

1. Attached in duplicate is Form PTO/SB/44 with at least one copy being suitable for printing.
2. The exact page and line number where the error occurs in the patent are:

Column 3, line 28, change "FIG. after" to --FIG. 2A after--

Column 7, line 30, change equation to:

$$\delta^{(v)} = \frac{(C_{1133} - C_{3232})^2 - (C_{3333} - C_{3232})^2}{2C_{3333}(C_{3333} - C_{3232})^2}$$

Column 7, line 49, Eq. (7) change to:

$$R(\theta, \phi) = I + \left[G_2^* \cos^2(\phi - \beta) + G_1^* \sin^2(\phi - \beta) \right] \sin^2(\theta)$$

Column 7, line 53, Eq. (8) change to:

$$G_2^* \cos^2(\phi - \beta) + G_1^* \sin^2(\phi - \beta) = W_{11} \cos^2(\phi) + 2W_{12} \cos(\phi) \sin(\phi) + W_{22} \sin^2(\phi)$$

Column 7, line 55 change "W₁₁, W₁₂, and W₁₃" to --W₁₁, W₁₂, and W₁₃--

3. The requested corrections do not involve changes in the patent that constitutes new matter or would require reexamination.
4. Please send the Certificate to **Paul S. Madan**, Madan, Mossman & Sriram, P.C. 2603 Augusta, Suite 700, Houston, Texas 77057.
5. No fee is believed to be owed for this request. The Commissioner is authorized to charge any fees or credit any overpayment associated with this communication to Deposit Account No. 13-0010 (IO-1095USD1)

Respectfully submitted,

Date: January 4, 2008

/Ronald E. Jones/
Ronald E. Jones
Registration No. 60,120
MADAN, MOSSMAN & SRIRAM, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057
Telephone: (713) 266-1130
Facsimile: (713) 266-8510

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 6,698,147 B2

Page 1 of 1

APPLICATION NO. : 10/689,423

ISSUE DATE : May 24, 2005

INVENTOR(S) : Edward Louis Jenner and Martin Carroll Williams

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3, line 28, please change: "FIG. after" to --FIG. 2A after--

Column 7, line 30, please change equation to:

$$\delta^{(v)} = \frac{(C_{1133} - C_{3232})^2 - (C_{3333} - C_{3232})^2}{2C_{3333}(C_{3333} - C_{3232})^2}$$

Column 7, line 49, Eq. (7), please change to:

$$R(\theta, \phi) = I + [G_2 * \cos^2(\phi - \beta) + G_1 * \sin^2(\phi - \beta)] \sin^2(\theta)$$

Column 7, line 53, Eq. (8), please change to:

$$G_2 * \cos^2(\phi - \beta) + G_1 * \sin^2(\phi - \beta) = W_{11} \cos^2(\phi) + 2W_{12} \cos(\phi) \sin(\phi) + W_{22} \sin^2(\phi)$$

Column 7, line 55, please change:

"W₁₁, W₁₂, and W₁₃" to --W₁₁, W₁₂, and W₂₂--

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Madan, Mossman & Sriram, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057-5662

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 6,698,147 B2

Page 1 of 1

APPLICATION NO. : 10/689,423

ISSUE DATE : May 24, 2005

INVENTOR(S) : Edward Louis Jenner and Martin Carroll Williams

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3, line 28, please change: "FIG. after" to --FIG. 2A after--

Column 7, line 30, please change equation to:

$$\delta^{(v)} = \frac{(C_{1133} - C_{3232})^2 - (C_{3333} - C_{3232})^2}{2C_{3333}(C_{3333} - C_{3232})^2}$$

Column 7, line 49, Eq. (7), please change to:

$$R(\theta, \phi) = I + [G_2 * \cos^2(\phi - \beta) + G_1 * \sin^2(\phi - \beta)] \sin^2(\theta)$$

Column 7, line 53, Eq. (8), please change to:

$$G_2 * \cos^2(\phi - \beta) + G_1 * \sin^2(\phi - \beta) = W_{11} \cos^2(\phi) + 2W_{12} \cos(\phi) \sin(\phi) + W_{22} \sin^2(\phi)$$

Column 7, line 55, please change:

"W₁₁, W₁₂, and W₁₃" to --W₁₁, W₁₂, and W₂₂--

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Madan, Mossman & Sriram, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057-5662

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number: 6,898,147 B2
Issued: May 24, 2005
Inventors: Edward Louis Jenner and Martin Carroll Williams
Title of Invention: System for Estimating Azimuthal Variations in Seismic Data

Commissioner of Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

ATTENTION: Certificate of Correction Branch

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR PTO MISTAKE (37 CFR 1.322 (a))**

1. Attached in duplicate is Form PTO/SB/44 with at least one copy being suitable for printing.
2. The exact page and line number where the error occurs in the patent are:

Column 7, line 59, Eq. (9) should read:

$$G_2^* = 0.5 \left(W_{11} + W_{22} + \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 7, line 61, Eq. (10) should read:

$$G_1^* = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 7, Eq. (13) should read:

$$G_1 = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 9, Eq. (14) should read:

$$G_2 = \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2}$$

3. Evidence in the specification in support of the PTO errors occur at page 13, line 3; page 13, line 14; page 14, line 2; and page 14, line 3 of the application as filed.
4. Please send the Certificate to **Paul S. Madan**, Madan, Mossman & Sriram, P.C. 2603 Augusta, Suite 700, Houston, Texas 77057.
5. No fee is believed to be owed for this request. The Commissioner is authorized to charge any fees or credit any overpayment associated with this communication to Deposit Account No. 13-0010 (IO-1095USD1).

Respectfully submitted,

Date: January 4, 2008

/Ronald E. Jones/
Ronald E. Jones
Registration No. 60,120
MADAN, MOSSMAN & SRIRAM, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057
Telephone: (713) 266-1130
Facsimile: (713) 266-8510

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : **6,898,147 B2**
APPLICATION NO.: **10/689,423**
ISSUE DATE : **May 24, 2005**
INVENTOR(S) : **Edward Louis Jenner and Martin Carroll Williams**

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 7, line 59, Eq. (9), please change to:

$$G_2^* = 0.5 \left(W_{11} + W_{22} + \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 7, line 61, Eq. (10), please change to:

$$G_1^* = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 7, Eq. (13), please change to:

$$G_1 = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 9, Eq. (14), please change to:

$$G_2 = \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2}$$

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Madan, Mossman & Sriram, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057-5662

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA, 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : **6,898,147 B2**
APPLICATION NO.: **10/689,423**
ISSUE DATE : **May 24, 2005**
INVENTOR(S) : **Edward Louis Jenner and Martin Carroll Williams**

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 7, line 59, Eq. (9), please change to:

$$G_2^* = 0.5 \left(W_{11} + W_{22} + \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 7, line 61, Eq. (10), please change to:

$$G_1^* = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 7, Eq. (13), please change to:

$$G_1 = 0.5 \left(W_{11} + W_{22} - \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2} \right)$$

Column 8, line 9, Eq. (14), please change to:

$$G_2 = \sqrt{(W_{11} - W_{22})^2 + 4W_{12}^2}$$

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Madan, Mossman & Sriram, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057-5662

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA, 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.